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PRE-APPEAL BRIEF REQUEST FOR REVIEW	Docket Number (Optional) 2557-000196/US

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] On _____ Signature_____ Typed or printed name _____	Application Number 10/811,993	Filed March 30, 2004
	First Named Inventor Tae-Sun KIM et al.	
	Art Unit 2622	Examiner Trang U. Tran

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

☒ attorney or agent of record.
Registration number 35,094.

☐ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____

_____
Signature

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January 7, 2009
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPELLANTS: Tae-Sun KIM et al.   CONF. NO.: 2678

SERIAL NO.:   10/811,993   GROUP: 2622

FILED: March 30, 2004   EXAMINER: Trang U. Tran

FOR: SCANNING CONVERSION APPARATUS AND METHOD

Customer Service Window   January 7, 2009
Randolph Building
401 Dulany Street
Alexandria, VA 22314
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REASONS FOR PRE-APPEAL REQUEST FOR REVIEW

Dear Sir:

Further to the concurrent filing of the attached Notice of Appeal and Pre-Appeal Request for Review, the following remarks are submitted in connection with the above-identified patent application. Claims 32-34 are allowed, and claims 5, 7, and 22 define allowable subject matter. Claims 24-31 are withdrawn from consideration.

Claims 1-4, 6, 8-21 and 23 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 5,943,099 (*"Kim"*). Appellants request this rejection be withdrawn for the following reasons.

As currently pending, the method of claim 1 requires, *"selectively performing one of at least two interlaced-to-progressive conversion (IPC) techniques on input interlaced scan data based on a received control command, one of the at least two IPC techniques generating at least one scan line of including spatio-temporal pixel values, each spatio-temporal pixel value being a combination of a spatially interpolated pixel value and a temporally interpolated pixel value."* Such a method is not disclosed or fairly suggested by *Kim.*

In the conversion device of *Kim,* a correlator 130 detects a motion correlation DM, a vertical direction correlation DV and a temporal-vertical correlation DT from the input interlaced image signal. The correlations DM, DV and DT are output to a selector 140. The selector 140 compares the motion correlation DM, the vertical correlation DV and the temporal-vertical correlation DT with predetermined constants

TM, T1 and T2, respectively. The selector 140 then <u>selects one of</u> a spatially interpolated signal Is output from the spatial interpolator 110 or a temporally interpolated signal It output by the temporal interpolator 120 based on the comparison results. The <u>selected</u> signal is output by the selector 140 as an interpolated signal Vout.

Contrary to the method of claim 1, in the conversion device of *Kim* the selector 140 <u>selects *one of*</u> a spatially interpolated signal Is *or* a temporally interpolated signal It based on a comparison between motion correlation DM, vertical correlation DV and temporal-vertical correlation DT with predetermined constants. No combining of these separately interpolated signals or spatial and temporal interpolated pixel values is performed. Thus, *Kim* does not disclose or fairly suggest *"generating at least one scan line of including spatio-temporal pixel values, <u>each spatio-temporal pixel value being a combination of a spatially interpolated pixel value and a temporally interpolated pixel value</u>,"* as required by claim 1.

In response to the above arguments against the rejection in view of *Kim,* the Examiner states in relevant part:

> It is noted that the claimed "combination" can be anticipated by the selection of *Kim* because the selector 140 combines the outputs of the spatial interpolator 110 and the temporal interpolator 120. It is further noted that the time-divisional multiplexer using switch to combine inputted signals. Each spatio-temporal pixel value is a combination of a spatially interpolated pixel value and a temporally interpolated pixel value; for example, the combination of zero and spatially interpolated pixel value and the combination of zero and temporally interpolated pixel value. Thus, *Kim* indeed does disclose the claimed "generating at least one scan line of including spatio-temporal pixel values, each spatio-temporal pixel value being a combination of a spatially interpolated pixel value and a temporally interpolated pixel value" as required by claim 1[...]
>
> [...] *Kim* does indeed disclose the claimed that the spatially interpolated signal Is and the temporally interpolated signal It are combined and combining the spatially interpolated signal Is and the temporally interpolated signal It on a per pixel value basis to generate a spatio-temporal pixel value.

October 7, 2009 Final Office Action, pp. 2-3.

Appellants disagree with the Examiner's statements. First, the Examiner is distorting the disclosure of *Kim* to include features that are not actually disclosed, either implicitly or explicitly. As discussed above, and as is readily apparent, *Kim* does

not disclose any spatio-temporal pixel value that is a <u>combination</u> of a temporally interpolated pixel value and a spatially interpolated pixel value. Rather, *Kim* merely <u>selects one of</u> a temporally interpolated signal and a spatially interpolated signal to be output.

Further, according to column 4, lines 2-5 of *Kim*, the selector 140 "selects a signal Is output by the spatial interpolator 110 *or* a signal It output by the temporal interpolator 120 on the basis of the compared results as an interpolated signal Vout." Indeed, the use of '*or*' in this portion of *Kim* is an explicit indication that *one of* the spatially interpolated signal and the temporally interpolated signal is selected for output. Nowhere does *Kim* disclose or even suggest that spatially interpolated pixel values and temporally interpolated pixel values are <u>combined</u> in anyway. In short, *Kim* explicitly discloses interpolating the input image signal temporally *or* spatially, but not a combination of the two. See, *Kim* at 4:2-4:5, 4:15-4:21, 6:50-6:62, 7:33-7:37.

In view of the above remarks, Appellants respectfully submit that claim 1 is patentable over *Kim.*

Claim 8 requires, "*a conversion structure configured to generate different streams of scan data from input interlaced scan data, the different streams of scan data representing conversion of the input interlaced scan data into portions of progressive scan data according to different IPC conversion techniques, one of the different streams including spatio-temporal pixel values, each spatio-temporal pixel value being a combination of a spatially interpolated pixel value and a temporally interpolated pixel value,*" and thus, claim 8 is patentable over *Kim* for at least reasons somewhat similar to those set forth above with regard to claim 1. Claims 2-4, 6, 9-21 and 23 are patentable over *Kim* at least by virtue of their dependency from claims 1 or 8.

Appellants further note that prior to the filing of this Pre-Appeal Request for Review, Appellants requested and then conducted a telephone interview with the Examiner. During the interview, Appellants requested the Examiner clarify her interpretation of the language of claim 1 *vis-a-vis Kim.* The Examiner kindly did so explaining her opinion that the claimed, "combination of a spatially interpolated pixel value and a temporally interpolated pixel value," in claim 1, reads on *Kim*'s selection of one of the spatially interpolated signal Is or a temporally interpolated signal It because the result of combining a spatially interpolated signal Is and a temporally interpolated signal It, where one of the signals is zero, would essentially produce the same

resultant signal as selecting one of the two signals. Appellants disagree with the Examiner's interpretation. In particular, Appellants fail to understand how the Examiner rationalizes the conclusion that the claimed "combination" is disclosed by *Kim* when *Kim* discloses no such combining of the signals Is and It whatsoever. Further, one of ordinary skill surely would not conclude that *Kim* discloses combining the two signals when *Kim* only discloses selecting <u>one</u> of the two signals Is and It.

The Examiner also referred Appellants to column 2, lines 15-20 and column 2, lines 40-45 of *Kim* in support of the conclusion that *Kim* discloses the claimed "spatio-temporal pixel value." Appellants disagree. The referenced portions of *Kim* state:

> The above interlaced-to-progressive conversion methods can roughly be categorized into a spatial-interpolating method, a temporal-interpolating method, and a three-dimensional interpolating method which combines the spatial-interpolation and the temporal-interpolation.
>
> *Kim* at 2:15-20.

> It is another object of the present invention to provide a three-dimensional interlaced-to-progressive conversion method for selecting and outputting one of a spatial-interpolated and a temporal-interpolated image signal depending on motion and spatial correlations.
>
> *Kim* at 2:40-45.

Column 2, lines 15-20 of *Kim* merely discuss a three-dimensional interpolating method, which at most combines spatial interpolation and temporal interpolation *techniques*. This does not, however, disclose or fairly suggest combining a spatially interpolated <u>pixel value</u> and a temporally interpolated <u>pixel value</u>. Further, this portion of *Kim* is categorizing the conversion methods described in the Background section of *Kim*, not those described in connection with *Kim*'s invention.
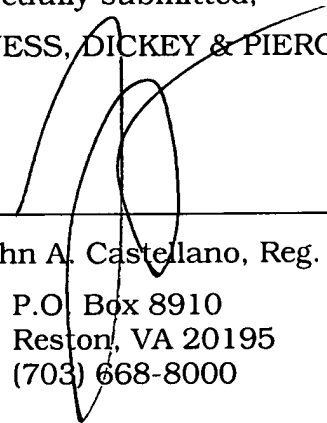
Column 2, lines 40-45 discuss an object of *Kim*, which is to provide a three-dimensional interlaced-to-progressive conversion method for *selecting and outputting* <u>one of</u> a spatially interpolated and a temporally interpolated image signal depending on motion and spatial correlations. This portion of *Kim* also does not provide any support for the conclusion that *Kim* discloses <u>combining</u> a spatially interpolated <u>pixel value</u> and a temporally interpolated <u>pixel value</u>. In sum, these additional portions of *Kim* do not support the conclusion that the claimed "combination," reads on *Kim*'s *selecting*.

At the conclusion of the interview no agreement was reached. Hence, the filing of this Notice of Appeal and Pre-Appeal Request for Review.

In view of the above remarks, Appellants respectfully request the current rejection in view of *Kim* be withdrawn and the claims of the present application be allowed.

Should there be any outstanding matters that need to be resolved in the present application, the Pre-Appeal Brief Review Board is respectfully requested to contact the undersigned at the telephone number. If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY & PIERCE, PLC

By _____

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